

Impact of Rebanding to Motorola Systems and Subscribers



Retune/Reprogram/Update/Replace Definitions

- Retune: Updating the channel frequencies via the Customer Programming Software/Radio Service Software programming software
- Reprogram: Updating operating software via software FLASH with new frequencies & band plan
- Update: One or more boards must be replaced in the equipment to enable retuning or reprogramming
- Replace: Cannot be updated to support new frequencies or band plans

Motorola's System Categories

System impact falls into 4 categories based upon channels used

A – Channels in first 120 only
(806.0125/851.0125 – 808.9875/853.9875)
- No NPSPAC 821-824 Channels at all

B – Channels in NPSPAC only
(821.0125/866.0125 – 823.9875/868.9875)
- No Channels in 806-809 General Category

C – Channels in NPSPAC and first 120

D – Channels in Interleaved spectrum
(809.0125/854.0125 – 815.9875/860.9875)
- No NPSPAC 821-824 Channels at all
- No 806-809 General Category Channels

Category A

Channels in first 120 only

- System with channels from 851.0125 / 806.0125 to 853.9875 / 808.9875
- Relocates to channels from 854.0125 / 809.0125 to 861.9875 / 816.9875
- Does not have any NPSPAC channels including Mutual Aid programmed in radio
- Equipment impact
 - Radio units can be retuned to new frequencies
 - Radios in red are class B IM protection. Motorola recommends replacing those units for better interference protection after rebanding*

* Costs to replace radios that can be retuned or reprogrammed will be the responsibility of the licensee

Retune w/ RSS –	
XTS5000	MCS2000
XTL5000	MTS2000
XTS2500	MT2000
XTS1500	MTX8000
XTS3000	MTX8250 Conv.
Visar 800	MTX850
ASTRO Saber	Saber SI
ASTRO Spectra	GTX Mobile
Spectra	GTX Portables
Spectra E	STX
Syntor 9000	STX Gemini Plus
Syntor ATM	MTX 820
HT1000 Conv.	LCS 2000
	LTS 2000
	MaxTrac

Current as of Jan. 10, 2005



Category B

Channels in NPSPAC only

- System with NPSPAC channels from 866.0125/821.0125 to 868.9875/823.9875
- Relocates to rechanneled 851.0125/806.0125 – 853.9875/808.9875
- 821/866-824/869 MHz must be reflashed with new radio software to operate in 806/851-809/854 MHz
- All radios must be retuned. The radios must be reprogrammed with a new RSS/CPS programming software to support new channels

Reprogram Subscriber

XTS5000
XTS2500
XTS1500
XTS3000
MCS2000
MTS2000 (512k)
ASTRO Saber (1MB)
ASTRO Spectra (>95)
XTL5000

Replace Subscriber

Spectra
Spectra E
Saber SI
STX Gemini Plus
MTX 820
MaxTrac
LCS 2000
LTS 2000
MTS2000 (256k)
ASTRO Saber (512k)
ASTRO Spectra (<96)

Current as of Jan. 10, 2005



Category C

Both NPSPAC & first 120 Channels

- **System with NPSPAC channels from 866.0125 / 821.0125 to 868.9875 / 823.9875 and channels from 851.0125 / 806.0125 to 853.9875 / 808.9875**
- **May be a multi-step process**
 - First Relocation from lower 120 (851.0125 / 806.0125 to 853.9875 / 808.9875) is retune only
 - Second Relocation to rechanneled 851.0125/806.0125 – 853.9875/806.9875 is Reprogram and/or Replace
- **All radios with NPSPAC channels must be re-flashed with new radio software to operate in new NPSPAC channels (806/851 - 809/854 MHz)**
- **All radios must be retuned. Radios must be reprogrammed with a new RSS/CPS programming software to support new channels**

Reprogram Subscriber

XTS5000
XTS2500
XTS1500
XTS3000
MCS2000
MTS2000 (512k)
ASTRO Saber (1MB)
ASTRO Spectra (>95)
XTL5000

Replace Subscriber

Spectra
Spectra E
Saber SI
STX Gemini Plus
MTX 820
MaxTrac
LCS 2000
LTS 2000
MTS2000 (256k)
ASTRO Saber (512k)
ASTRO Spectra (<96)

Current as of Jan. 10, 2005



Category D

Channels in Interleaved spectrum

- System with channels from 854.0125 / 809.0125 – 860.9875 / 815.9875 only
- At this time, no impact;

However,

- Public Safety licensees in new Expansion band channels 860.0125 / 815.0125 to 860.9875 / 815.9875 can relocate if desired to frequencies below 809-815 / 854-860 MHz.
- Project only requires retuning for those who move out of Expansion Band

Current as of Jan. 10, 2005



Systems Impact — Categories A & D (No NPSPAC 821-824MHz channels)

Retune

ASTRO/Analog SmartZone 4.1
ASTRO 25 6.X (SE included)
Private Data Systems
Privacy Plus
Privacy Plus-Enhanced
SMARTNET I
SMARTNET II (21 channels)
SMARTNET II+
SMARTNET 3.0
SMARTNET 3.1
SMARTNET 3.2
SmartZone 2.03
SmartZone 3.0
SmartZone OmniLink 3.5

Reprogram or Replace

None*

* Unknown SPs are at risk

Current as of Jan. 10, 2005



Systems Impact — Categories B & C

(Includes NPSPAC 821-824 MHz Channels)

Retune	Reprog & Retune	Update	Replace
ASTRO 25 6.X - SE included Private Data Systems	SmartZone 2.03 SMARTNET II+ SMARTNET 3.0 SMARTNET 3.1 SMARTNET 3.2 SmartZone 3.0 SmartZone OmniLink 3.5 ASTRO/Analog SmartZone 4.1	SMARTNET I SMARTNET II (21 channels)	None*

* Unknown SPs are at risk

Current as of Jan. 10, 2005



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Stations

Retune

DSS I, II, & III (Data Stations)

MTR 2000

MSF 5000

Quantar

Quantro

STR 3000

MICOR-Non-Simulcast

Note: Requires retune of high
stability oscillator in Channel
Element

For Category **A** & **D**
IntelliRepeater (IR)

Reprogram

For Category **B** & **C**
IntelliRepeater (IR)

Simulcast MICOR are still being evaluated for impact.

Current as of Jan. 10, 2005



Controllers

Retune

RNC3000

For Category **A** & **D**

6809

IMP Zone Controller

MTC 3600

MZC 3000

CSC 7000

Reprogram

For Category **B** & **C**

6809 (28 Channel)

IMP Zone Controller

MTC 3600

MZC 3000

CSC 7000

Update

For Category **B** & **C**

6809 (Pre-
SMARTNET II+)

Current as of Jan. 10, 2005



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Network Management

Retune	Reprogram	Replace
Zone Manager Site Command Site Control Manager <u>For Category A & D</u> SIMS II System Watch II Lab Watch Site Lens	<u>For Category B & C</u> System Watch II Lab Watch Site Lens	SIMS I SIP <u>For Category B & C</u> SIMS II

Current as of Jan. 10, 2005



Consoles

- Conventional only—No Impact
- Category **A** & **D** Trunked Systems—No Impact
- Impact on Category **B** & **C** Systems is listed below:

Reprogram	Replace
CENTRACOM Gold CENTRACOM Gold Elite	Trunked CENTRACOM II

- CENTRACOM Series II+ is still being evaluated for Categories **B** & **C**

Current as of Jan. 10, 2005